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FRUIT TREES

AND

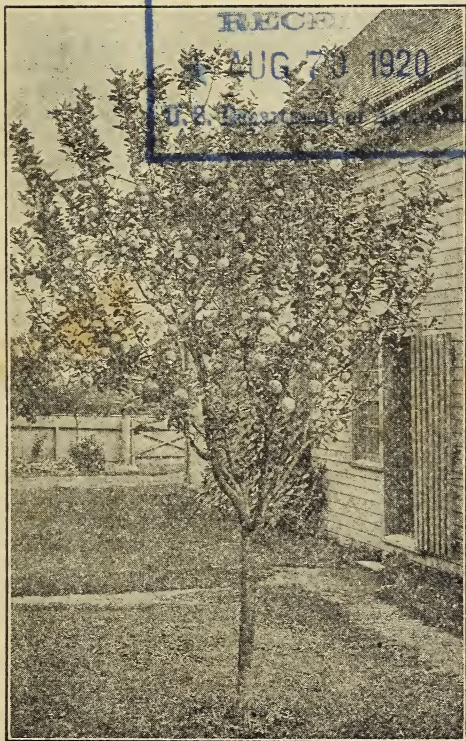
HOW TO GROW THEM

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U.S. Department of Agriculture



FRUIT TREES

AND

HOW TO GROW THEM

HINTS ON TRANSPLANTING, ETC.

NO attempt is made to give complete directions on all points connected with Tree Planting, but simply a few hints on the more important operations. Every man who purchases a bill of trees should put himself in possession of some treatise on tree culture that will furnish him with full and reliable instructions on the routine of management. Transplanting is to be considered under the following heads:

CARE OF STOCK ON ARRIVAL.

Upon arrival of box or package place it in a shed, barn or cellar away from sun, take off the cover and thoroughly wet down with water and allow it to stand twelve hours, or over night, before removing the stock (excepting Raspberry tips and Strawberry plants, which should be at once heeled in soil). Then make ready a trench fourteen inches deep, and as soon as stock is removed from the package heel it in this trench, giving the roots plenty of mellow soil, well pressed down with the feet. If soil is dry moisten it with water after heeling in; the trees are then ready for planting and should only be taken out as needed. If trees or plants are very dry or shriveled at once *bury* them, root, body and branch, in very moist soil, well pressed down, and leave them for four to six days, when they will be found as plump and fresh as when first dug. *If frozen*, no water should be applied, but they should at once be buried in earth until all frost is out, and they will not be injured.

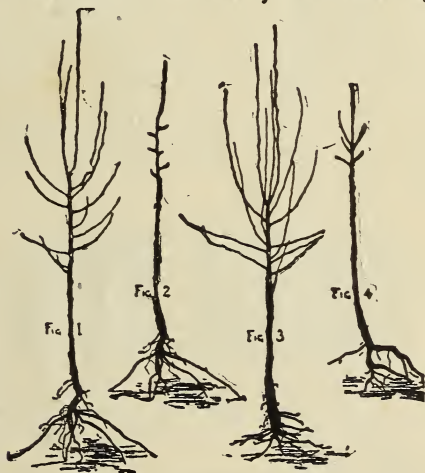
PREPARATION OF THE SOIL.

For fruit trees the soil should be *dry*, either natural or made so by thorough drainage, as they will not live or thrive on a soil constantly saturated with stagnant moisture. It should also be well prepared by twice

plowing, at least, beforehand, using the subsoil plow after the common one at the second plowing. On new fresh lands manuring will be unnecessary, but on lands exhausted by cropping, fertilizers must be applied, either by turning in heavy crops of clover or well decomposed manure or compost. To insure a good growth of fruit trees, land should be in as good condition as for a crop of wheat, corn, or potatoes. If you want trees to grow well, be vigorous and strong, you must give them plenty of food and good cultivation until August 1st, when all cultivation should cease, to allow new wood to thoroughly ripen up before cold weather, which it will not do if kept growing by cultivation after that date.

PREPARATION OF THE TREES.

In regard to this important operation, there are more fatal errors committed than in any other. As a general thing, trees are planted in the ground precisely as they are sent from the nursery. In removing a tree,



Figs. 1 and 3 show trees as they come from the nursery. Figs. 2 and 4 show the same trees properly pruned back for planting.

no matter how carefully it may be done, a portion of the roots are broken and destroyed, and consequently the balance that existed in the structure of the tree is deranged. This must be restored by a proper pruning, adapted to the size, form, and condition of the tree, as follows:

Standard Orchard Trees.—These, as sent from the nursery, vary from five to seven feet in height, with naked stems or trunks, and a number of branches at the top forming a head. These branches should all be cut back to within three or four buds of their base. This lessens the demand upon the roots, and enables the remaining buds to push with vigor. Cut off smoothly all bruised or broken roots up to the sound wood. In case of older trees, of extra size, the pruning must be in proportion; as a general thing it will be safe to shorten all the previous year's shoots to three or four buds at their base, and where the branches are very numerous some may be cut out entirely.

Dwarf Trees, if of two or three years' growth, with a number of side branches, will require to be pruned with a two-fold object in view, viz., the growth of the tree and the desired form. The branches must be cut into the form of a pyramid by shortening the lower ones, say one-half, those above them shorter, and the upper ones around the leading shoots to within two or three buds of their base. The leader itself must be shortened back one-half or more. When trees have been dried or injured much by exposure, the pruning must be closer than if in good order.

PLANTING.

Be sure to remove label before tree begins to grow or it will be fatally injured through strangulation.

Illustration following presents vividly the difference between correct and incorrect planting. In Fig. 1 too small a hole has been dug, and the roots have been crowded into it in such a way that if the tree lives at all it will be at the cost of great effort and loss of vitality.

This is the method which is *commonly practiced*, and we cannot therefore too strongly warn our customers against it.

The roots must have plenty of room, and great care should be exercised to have them as nearly as possible in the same position they occupied in the nursery.

In Fig. 2 the roots occupy this position, being carefully arranged, and the top has been properly trimmed regardless of the great injury to the *present* appearance of the tree. In transplanting under the most careful management, so many of the fibrous roots which carry nourishment are destroyed that it is very essential that the top be correspondingly removed.

Top left without
pruning and roots
crowded together

Top properly pruned
and cut back, and roots
carefully spread out



Fig. 1

Improperly planted



Fig. 2

Properly planted

Notice.—The above show the right and wrong way to plant trees. Plant and trim according to Fig. 2 and you will have no trouble in making your trees grow. **This is the secret of success.**

Dig holes in the first place large enough to admit the roots of the tree to spread out in their natural position; then, having the tree pruned as before directed, let one person hold it in an upright position, and the other shovel in the earth, carefully putting the finest and the best from the surface in among the roots, filling every interstice, and bringing every root in contact with the soil. When the earth is nearly filled in, a pail of water may be thrown on to settle and wash in the earth around the roots; then fill in the remainder and tread gently with the foot. The use of the water is seldom necessary, except in dry weather, early in fall or late in spring. Guard against planting *too deep*; the trees, after the ground settles, should stand in this respect as they did in the nursery. Trees on dwarf stock should stand so that *all the stock* be under the ground, and *no more*. In very dry, gravelly ground, the holes should be dug twice the usual size and depth, and filled in with good loamy soil, pressing soil well down with the feet. See that roots are well spread out and soil firmly around them—don't hurry the job, *do it well*, and success is certain. After planting, each tree should be well mulched for two or three feet out with coarse manure. This prevents drying and is better than watering. The trees should not be long exposed to sun and air. Never put any manure in the holes with the roots, it causes decay.

STAKING.

If the trees are tall and much exposed to winds, a stake should be planted with the tree, to which it should be tied in such a manner as to avoid chafing. A piece of matting or cloth may be put between the tree and the stake.

MULCHING.

When the tree is planted throw around it as far as the roots extend, and a foot beyond, five or six inches deep of rough manure or litter. This is particularly necessary in dry ground, and is highly advantageous everywhere both in spring and fall planting. It prevents the ground from baking or cracking, and maintains an equal temperature about the roots.

AFTER-CULTURE.

The grass should not be allowed to grow around young trees after being planted, as it stunts their growth. The ground should be kept clean and loose around them until, at least, they are of bearing size.

You can't expect to get a paying crop without cultivation. Cultivate the orchard and keep it cultivated up to August 1st. The finest and most productive orchards we have ever seen are cultivated every ten days or two weeks during spring. The best fertilizer for a young orchard is a green crop plowed in every spring, or liberal manuring until trees are well grown and begin to fruit, after that wood ashes or potash, with an occasional green crop plowed in, are better than barnyard manure and will supply all that is needed.

Treatment of Trees that have been Frozen in the Packages or Received during Frosty Weather.—Place the packages, unopened, in a cellar or some such place, cool, but free from frost, until perfectly thawed, when they can be unpacked, and either planted or placed in a trench until convenient to plant. Treated thus, they will not be injured by the freezing. Trees procured in the fall for spring planting, should be laid in trenches in a slanting position to avoid the winds; the situation should always be sheltered and the soil dry. A mulching on the roots and a few evergreen boughs over the tops will afford good protection.

APPLES FOR PROFIT.

Our Farmers are just beginning to realize the immense profit to be derived from a well kept orchard. There are thousands of acres of land on which just as much money can be made to an acre with fruit as is now made in Hood River, Oregon, and other fruit sections, where bearing orchards are being sold for from \$2000 to \$6000 per acre. One acre in fruit will produce as much profit as ten acres in grain and with far less labor.

It is a known fact that if Fruit Growers would organize (which they are doing now) and grade their

fruit the same as the Hood River Fruit Growers, the fruit would bring just as good prices, and in time, when the people begin to realize the difference in quality, will bring better prices, the more Eastern being superior in quality. This organizing of the Fruit Growers is a matter of but a short time.

WHERE TO PLANT.

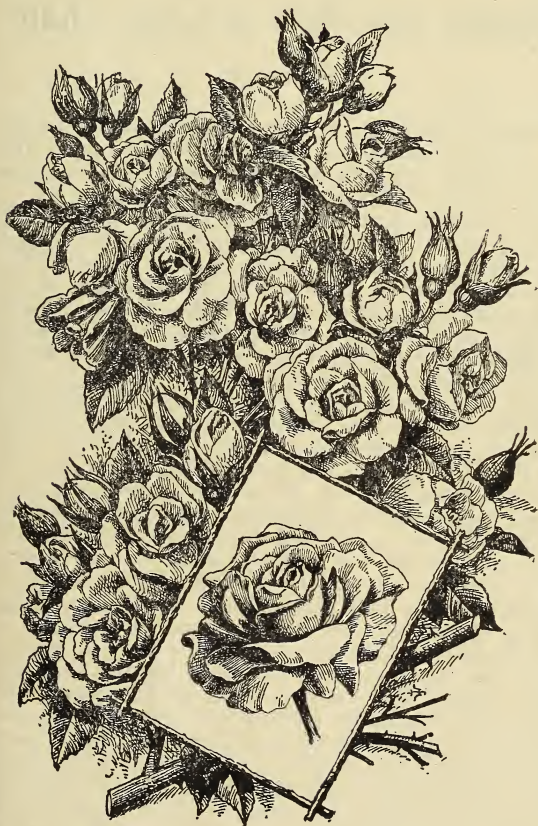
Fruit will do well planted on most any kind of soil; rocky hills too steep for other crops will raise the finest kind of fruit. Take your field where you raise your best crops, plant it to an apple orchard and it will bring you many times your grain profits. A yield of \$2000 per acre net is a common occurrence to those who take good care of their orchards. The favorable conditions of a good orchard are not in any particular kind of soil or climate, but it is the man who takes good care of his young trees, by fertilizing and spraying, regardless of location that makes the orchard a gold mine.

Young, Healthy Stock is much superior to old, or very large trees. Two or three year old trees are more apt to live, are easier handled and can be trimmed or shaped to any desired form, and will outstrip older stock in growth. Practical fruit growers always plant young trees.

VARIETIES.

Most people make the mistake of planting too many varieties. When the buyer comes around he will tell you you have not enough of any one variety to bother with. Confine your list to not more than five varieties—the varieties that do best in your locality.

Roses, Shrubs, Plants, Etc.



AND

HOW TO GROW THEM

Roses, and How to Grow Them

PROBABLY more people appreciate the beauty and value of the Rose than that of any other flower, but comparatively few succeed in growing it to its greatest perfection.

It succeeds best in a deep, rich, clay-loam soil. More persons fail in growing the rose from not making the soil rich enough than from any other cause. Three things should be taken into consideration before planting: First, the location, which is the all-essential thing; next the soil; lastly the varieties, if you would succeed. In preparing your rose bed or hedge, whichever you intend to set, first prepare the soil for your plants as follows: If in the lawn, and the ground is sodded over, remove the sod if the ground is a stiff clay, to the depth of four inches, the size you want your bed; spade up the ground to the depth of 15 inches thoroughly, then prepare a compost as follows: Two parts of leaf mold, one part sandy soil or leached ashes, one part good, well-rotted cow manure. Mix these thoroughly together and place six inches deep of this mixture on top of your bed. Spade it in thoroughly, mixing into the ground. Prepare your bed six or eight weeks before your roses are expected to come, and spade the bed over every two weeks, pulverizing the lumps if there are any. By the time you have worked the soil over three or four times you will have a suitable bed to set roses in. If your ground is sandy use the same amount of clay-loam and cow manure. If it is a clay-loam use leaf mold two parts and cow manure one part, and proceed the same as above; if it is a muck and the ground is well drained, use a liberal amount of well rotted cow or horse manure. Remember that the manure must be well rotted and mixed thoroughly through the soil. Green manure must never be used, as it will kill the

plants if it comes in contact with the roots. Never set your roses in a low wet place; the ground must be thoroughly drained if it is low, although roses respond delightfully to a free application of water from the hydrant and cannot be grown perfectly without it. Roses always look best set in some design or in hedges. Rose beds should be plain, oval or circular, so you can run the lawn mower around them easily. Hedges are beautiful, if properly cared for. Never set your roses in the sod where the grass will grow around them. Better save your money than buy a rose for such a place, as the grass is sure to choke it out. Roses should be cultivated if you wish to reach the perfection line. Never plant roses under the over hanging boughs of a tree. To succeed well plant two year old roses budded or grown on their own roots. If possible, get a location where your roses will have some protection from the cold westerly winds, either from buildings, board-fence or hedge if you want a first-class rosary; while most of the Hybrid Perpetuals are hardy, they are much better with a little protection. Always get the best stock that can be procured. Don't buy any of the roses advertised 5 and 10 for a dollar, as they are miserable weaklings and should be kept in the greenhouse, as seven out of ten die, and your money is thrown away. Better pay a fair price and get something that will suit you.



HOW TO PLANT

When your roses come, place them in soft water twenty-four hours before setting; prune off all the broken roots. Plant your roses $2\frac{1}{2}$ feet apart. If set in rose beds, 2 feet; in hedge, if set two rows side by side, $2\frac{1}{2}$ by $3\frac{1}{2}$ feet. This will give you ample room to cultivate them. When setting be careful to straighten out the roots and press the dirt well around them with foot or hands. Set them as deep as they grow in the nursery. You can tell by the dark earth-line on the rose stalk. Budded roses should be set with the bud 4 inches under the ground. After setting, cut the tops off the weak plants 6 inches from

the ground, and the strong plants 8 inches, either Fall or Spring setting. If it is in the Spring cover the top of your bed $1\frac{1}{2}$ inches deep with good rotted manure, so when you use the hydrant on your roses you will be feeding the plant liquid manure, which gives your roses the most beautiful lustre. If it is a Fall set, after cutting the tops off, hoe the dirt up around your stalk three or four inches and before cold weather sets in, or about the time, hoe the dirt around them clear up to the top, and press around the plants, then cover three or four inches deep with good horse manure from the stable, which should have plenty of straw in it; leave this on all Winter. When Spring comes, in March or April, owing to the earliness of the Spring, remove all the manure and level up your bed; put two inches of this manure on top of your rose bed, shaking out all of the straw; dig this into the ground with manure fork. If you have no hydrant put the manure without shaking out the straw on top of the bed to keep the ground moist. Use all of the soap-suds made from washings on your roses, as it is an excellent fertilizer and is good for them. The kerosene emulsion should be used on the roses as soon as the leaves are the size of your little finger nail; spray them once a week and oftener if it rains much. Spray under the leaves as well as on top. This will keep your roses free from all insects. Never use poison on your roses as it is dangerous; some people have a mania for eating them. If you have the hydrant you need never have an insect to harm your bushes. As soon as your bushes begin to show leaves nicely (size of your little finger nail) use your hydrant every night on them; turn down the stream so it is like rain, giving the full force of the stream. Use this on your bushes and wash them for two minutes every evening, it will wash off all larvae so there will be none there to hatch. By doing this every night the leaves get accustomed to the water and they will bloom freely, giving you a beautiful supply of the gorgeous beauties. Roses should be pruned in March and about the last of June. When you prune in March, for the first three years cut the weak shoots back two-thirds, the strong

shoots one-half. After that level up your bush; by that time your rose should be established if you have grown it properly. Cut out the old canes, as they get scrubby, close to the ground to give place to the strong new shoots. Experience is the best teacher. Young shoots, if thrifty and strong, can be made to bloom in August if cut off in the latter part of June. This checks their growth, and as the wood hardens it will throw out side shoots, which will give you the most beautiful roses of the season. Clip off the ends of your bushes six to eight inches the middle of June or the first of July. Those that have no roses on cut off six or eight inches and it will soon throw out another shoot filled with buds. Roses should have a good coat of rotted manure every Fall, and worked into the ground every Spring. They should be kept clean from weeds or grass by cultivation.



PAEONIAS

Herbaceous and Tree Classes

One of the most beautiful of all the herbaceous plants. They are perfectly hardy and succeed everywhere, no matter how cold. They do best in a rich, mellow soil. Ashes and manure are the two essentials needed to bring them to perfection. They can be planted Fall or Spring. Fall is preferable. They should be covered every Winter with a liberal amount of manure, and, if possible, cultivate the ground the first two years. Plant six inches deep.



ANEMONES

The Anemones are among the most beautiful of our Fall-flowering plants. They should be planted without kinking the roots, in good deep rich soil. If the soil is not rich and loose, dig a hole sufficient so as to put in a liberal amount of rich loam. Cover with manure every Fall.

PHLOX

Plant Phlox three inches deep in Fall setting and two in Spring setting. In Fall setting cover one inch with rotted manure or two inches with coarse manure.



DAHLIAS

Place roots in damp soil, sand, or sawdust, and keep in a warm place for a few days before ready to set in the ground, to start the eyes, when they can be divided if more than one eye starts. It is best to leave but one stalk to each hill. When they have come up, cut out the top above the second pair of leaves; this will cause the plant to branch out close to the ground and make a strong, bushy plant that will require no staking. Any good garden soil, enriched with well rotted manure, will grow nice Dahlias, if *well provided with moisture*, which is necessary to their success. Plant any time after all danger of frost is past, and keep well cultivated and free from weeds. A mulch of straw manure in the latter part of the season will prove an advantage. About a week after plants are killed in the fall, take up on a bright day and let dry in the sun, and then store in the cellar upon shelves, where they can be kept dry. If put away too damp, or are left in piles, they are liable to decay.



CLEMATIS

The Clematis is the most beautiful of all the climbing vines and the most difficult to grow. They should never be planted where the drippings of the roof will fall on them, as they are very easily drowned, nor within 12 feet of a gas pipe. Gas and dog urine are sure death to Clematis. In planting dig out a hole as large as a bushel basket, and two feet deep. Throw in eight inches deep with bones, old boots and stone, and fill up rounding, with good leaf mold from the woods when setting, which should be done carefully. Spread the roots out evenly and set the roots in four

inches deep, with the crown of the Clematis nearly to the top of the ground. After setting put a little manure on top of the ground, but not on the crown of the Clematis. Keep cats and dogs off it and your Clematis will grow and please you. Give it a little manure every Fall. Other varieties of vines are not so particular, but give them plenty of rich, mellow earth when you set them and mulch with manure every Fall.



PRUNING SHRUBBERY

Some shrubbery needs more pruning than others. They should all be trimmed enough to keep them shapely. Hydrangea should be cut back every Spring one-half of the last year's growth. Like roses they produce their flowers on the new growth of wood. The Altheas can be pruned to suit your own fancy. Nearly all shrubbery grows gracefully, but sometimes a slight pruning will be necessary to make them shapely. The Gold-leaf Syringa, like some other shrubs, can be pruned to any shape desired, like the evergreens.



SPRAYING

Dissolve one-half small bar (about 3 ozs.) Ivory Soap in one quart of soft hot water. When cold add one-half pint of coal oil, whip it for ten minutes as you would beat an egg. It will become frothy or creamy, then add three quarts of soft water, making one gallon. Add the strength of four ounces of smoking tobacco steeped in two quarts of water, making six quarts of the mixture, then add 60 drops of carbolic acid. Mix thoroughly 24 hours before using. Keep in a cool place in a jug corked up. Shake well before using and apply with a sprayer in a mist-form on your bushes. Spray under the leaves and on top. Commence when the rose leaves are as large as your little finger nail. If it should be a wet time, spray twice a week if necessary. This mixture will keep your roses clear of insects. If the mixture should seem too strong weaken it a little. This mixture will keep your trees, plants and vines free from insects of all kinds.



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